

REMARKS

Claims 8 - 12, 14 - 20, 24 - 25, 28 - 31, and 33 have been cancelled. Multiple dependent Claims 32/28, 32/29 and 32/30 have been rewritten to be in independent format, as Claims 32, 35, and 36, respectively, and Claim 34 has been amended to depend from each of these claims. No claims containing new subject matter have been added.

Applicants are confused by the current Office Action. Five amendments have been filed previously, as well as a Declaration of the Inventors under 37 C.F.R. § 1.132 as to unexpected results. The Declaration under §1.132 was provided after a teleconference with the Examiner and her supervisor, in which it was indicated that the Declaration should be adequate to obtain allowance for a number of the claims. In the Office Action prior to the present Office Action, there was one rejection under § 102 grounds, there were three §103 grounds for rejection, and there was also a rejection of all of the claims under judicially created obviousness double patenting grounds over two issued patents. Applicants inadvertently did not address the double patenting grounds for rejection in the last response, but they are addressed herein.

In their last response, applicants made clear distinctions over the art, many of which were acknowledged by the Examiner, with the unexpected result that the Examiner responded with a Final Rejection having seven grounds of rejection under § 103 in addition to the two grounds of obviousness double patenting.

Despite applicant's Declaration under 37 C.F.R. § 1.132, the Examiner has decided that the inventors, who are experts in the field, should not be able to predict how particular aluminum alloys would perform in their invention, when the composition of the aluminum alloys controls such performance, the composition of the alloys at issue is well known in the art,

and applicants have determined how the composition affects performance, as described in their Declaration.

For the record, applicants repeat their contention that the claims as they were pending prior to the present Amendment “F” are allowable over the prior art cited by the Examiner (including the obviousness double patenting rejections which are discussed in detail in this response). However, the examination process has been so unduly burdensome and expensive, that applicants have exhausted their budget for prosecution. As a result, applicants are cancelling the claims which have not been allowed, with a notation that applicants consider this cancellation to be without prejudice, since the Examiner has failed to make a case for prima facie obviousness with respect to these claims. These claims are being cancelled so that applicants can rewrite claims for which the Examiner has indicated there is allowable subject matter (once the judicially created obviousness double patenting grounds are overcome), with the expectation of obtaining allowance of the present application without further prosecution expense.

Claim Rejections Under 35 USC § 103

Claims 28 and 31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hisamoto et al. (U.S. 6,066,392) in view of Fukuda (U.S. 5,120,626).

Claims 29 - 31 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hisamoto and Fukuda in view of “Aluminum and Aluminum Alloys” p. 462 - 472.

Claims 18 - 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hisamoto et al. (U.S. 6,066,392) and Miyashita (U.S. 5,039,388) as applied to claims above, in view of "Aluminum and Aluminum Alloys" p.462 - 472.

Claims 24 and 25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hisamoto et al. (U.S. 6,066,392) and Miyashita (5,039,388) in view of JP08-311594 (JP'594).

Claims 33 and 34 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hisamoto and Fukuda in view of JP 08-311594 (JP'594).

As discussed above, applicants will not be specifically addressing these grounds of rejection due to the expense of doing so. However, applicants contend that their claims which were pending prior to the present amendment were allowable over these references and that amendment to the claims, including cancellation of claims, is made for purposes of obtaining a speedy allowance of at least a portion of the claims at minimal expense, and is not made in view of the content of any of the above references which have been cited by the Examiner.

Applicants maintain that the Examiner has not provided a prima facie case of obviousness under any of these references.

Subject Matter Indicated To Be Allowable:

Claim 32 is objected to as being dependent upon a rejected base claim, but is said to be allowable if the claim is rewritten in independent form including all of the limitations of the base claim and any intervening claims, and if the grounds for obviousness double patenting rejection are overcome.

Claim 32 is a multiple dependent claim, including claims 32/28, 32/29, and 32/30.

Applicants have amended Claim 32 to be an independent claim which includes the limitations of Claim 28. Applicants have provided a new independent Claim, 35, which is Claim 32/29, and includes the limitations of Claims 32, 28, and 29, since Claim 29 depends from Claim 28. Applicants have provided a new independent Claim 36, which is Claim 32/30, and includes the limitations of Claims 32, 28, 29, and 30, since Claim 30 depends from Claim 29.

Applicants have also amended Claim 34, which depends from Claim 32 (which has been indicated to be allowable subject matter if amended as described above), so that Claim 34 meets the requirements for allowance.

Applicants contend that presently pending Claims 32, 34, 35, and 36 are allowable in view of the distinctions of the subject matter in these claims over the subject matter in the two patents cited in making a judicially created obviousness double patenting rejection, U.S. Patent 6,713,188 and U.S. Patent 6,565,984, for the reasons presented below.

Claims Rejected Under Judicially Created Double Patenting Grounds:

Claims, including presently amended Claims 32 and 34, which have been amended to include the limitations required by the Examiner, are indicated to contain allowable subject matter if distinguishable over Judicially Created Double Patenting Grounds. The patents cited in the rejection based on Judicially Created Double Patenting are U.S. Patent No. 6,565,984, to Wu et al., issued May 20, 2003, and U.S. Patent 6,713,188 to Wu et al., issued March 30, 2004. The '188 patent issued from a patent application which is a continuation-in-part (CIP) application of the '984 patent application.

The subject matter in the two applications is very similar, with the principal differences in disclosure being the amount of some particular impurities which may be present in the aluminum alloy. For example, in the '188 patent application, the concentration of silicon is present at concentration ranging from about 0.4 % by weight to about 0.8 %, while in the '984 patent the range is from about 0.54 % to 0.74 %. In the '188 patent application, the concentration of iron ranges from about 0.001 and about 0.20 % by weight, while in the '984 patent, the range is from about 0.05 % to about 0.20 %. In the '188 patent application, the concentration of manganese ranges from about 0.001 % to about 0.14 % by weight, while in the '984 patent, the concentration is up to about 0.14 %. In the '188 patent the concentration of zinc ranges from about 0.001 % up to about 0.15 % by weight, while in the '984 patent, the concentration of zinc is up to about 0.15 %. In the '188 patent application, the chromium concentration ranges from about 0.04 % to about 0.28 % by weight, while in the '984 patent, the chromium concentration ranges from about 0.16 % up to about 0.28 %. In the '188 patent, the concentration of magnesium ranges from about 0.8 % up to about 1.2% by weight, while in the '984 patent, the concentration of magnesium ranges between about 0.9 % and about 1.1 %. Both of these applications contain claims to a clean aluminum alloy for use in the fabrication of semiconductor apparatus, and both contain claims to a method of producing a corrosion-resistant article where an anodized layer covers a body formed from the clean aluminum alloy, and where a distribution of particle size for impurity particulates present in the clean aluminum alloy is called out.

The CIP application was filed when the inventors discovered that the impurity concentration ranges in the parent application did not cover the entire range of impurity

concentrations which may be present in the alloy and still have the alloy perform in the manner required for semiconductor apparatus operation.

The Wu et al. applications discussed above describe the use of an anodized protective layer over the surface of the clean aluminum alloy. However, there is no discussion as to how the anodized protective layer is created, other than by a method commonly known in the art. In addition, there is no description about any cleaning procedures which should to be performed on the surface of the clean aluminum alloy prior to creation of an anodized protective layer.

As a part of their development efforts, applicants discovered, subsequent to filing of the Wu et al. applications, that it is possible to use an aluminum alloy which contains considerably more magnesium than thought possible (without creating particulates of the kind which cause a failure in a subsequently created overlying anodized layer) at the time the Wu applications were filed. **The magnesium concentration range in the presently claimed high purity aluminum alloy ranges from about 3.5 weight % to about 4.0 %. This compares with a magnesium concentration in the Wu et al. patents which ranges from about 0.8 % by weight to about 1.2 % by weight. The Wu et al. patents teach away from the present invention which teaches a concentration which is about 3 times to 5 times larger that taught in the Wu et al. patents. There is not even a suggestion that a magnesium content in the range recited in the present application and claims is possible. The subject matter claimed in the present invention is not obvious over the subject matter taught in the Wu et al. patents.**

In addition, as discussed above, there is no description of a method of anodization of the clean aluminum alloy in the Wu et al. patents. While it is possible to use a number of different anodization methods, which employ different oxidation agents, **applicants were able to**

develop an anodization technique which provides an improved anodized layer when the surface which is being anodized is that of the high purity aluminum alloy having the specific chemical composition and impurity particle size distribution disclosed by applicants in the present application. Applicants described this specialized anodization process which includes exposing the surface of the high purity aluminum alloy to an electrolytic oxidation process during which the surface is immersed as an anode in an acid electrolyte, with a cathode comprised of an aluminum alloy, and where a DC current is applied, where the acid electrolyte is a water-based solution comprising 10 % to 20 % by weight sulfuric acid and about 0.5 % to 3.0 % by weight oxalic acid, where the protective film is created at a temperature ranging from about 5 °C to about 25 °C, and where an applied current density of said DC current ranges from 5 A/ft² to 36 A/ft². This specialized method of providing an aluminum oxide protective layer, which is claimed in Claim 32/29, is not even mentioned in the Wu et al. patents and is not enabled by or obvious over the Wu et al. patents. This is particularly true where there is 3 times to 5 times as much magnesium in the aluminum alloy as discussed in the Wu et al. patents. The magnesium mobile impurity presents itself at the surface which is being anodized (As discussed in applicant's Specification at Page 8, lines 14 - 18).

Further, prior to the anodization process, it is particularly helpful to chemically clean and polish the aluminum surface which is to be anodized. Applicants describe a cleaning process which is not even mentioned in the Wu et al. patents. **In the cleaning process, which is claimed in Claim 32/30, the surface of the high purity aluminum alloy is contacted with an acidic solution which includes about 60 % to 90 % by weight of technical grade**

phosphoric acid, having a specific gravity of about 1.7, and about 1 % to 3 % by weight of nitric acid, where the cleaning is carried out with the aluminum alloy surface at a temperature in the range of about 100 °C, for a time period ranging from about 30 seconds to about 120 seconds. This specialized cleaning process is not even mentioned in the Wu et al. patents and is not enabled by or obvious over the disclosure in the Wu et al. patents.

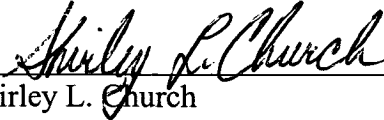
In view of the above distinctions, the Examiner is respectfully requested to withdraw the rejection of the claims presently pending in the application under Judicially Created Double Patenting Grounds in view of U.S. Patent No. 6,565,984, to Wu et al., issued May 20, 2003, and U.S. Patent 6,713,188 to Wu et al., issued March 30, 2004.

Applicants contend that the amended claims which are presently pending in the application (along with the claims which have been cancelled in order to obtain an expedited issuance of a patent at this time) are patentable over the references which have been cited in the last Office Action.

The Examiner is respectfully requested to withdraw rejections to the claims which are pending after amendment, and to pass the application as amended to allowance.

The Examiner is invited to contact applicants' attorney with any questions or suggestions, at the telephone number provided below.

Respectfully submitted,

A handwritten signature in cursive script, reading "Shirley L. Church", is written over a horizontal line.

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